

## ABSTRACT OF THE DISCLOSURE

Extremely advanced technology for scrambling an optical signal based on quantum mechanical fluctuation is used to provide a highly reliable optical communication method which can invalidate illicit activities such as wire-tapping, a system, and a laser oscillator which is used in the method and system. A transmitter side generates laser light, simultaneously oscillated at a plurality of wavelengths, the total number of generated photons being constant, and transmits a signal light comprising data which has been added to the light of the plurality of wavelengths; and at a receiving side, light, simultaneously oscillated at the plurality of wavelengths, is selected from the signal light, and the data is demodulated.